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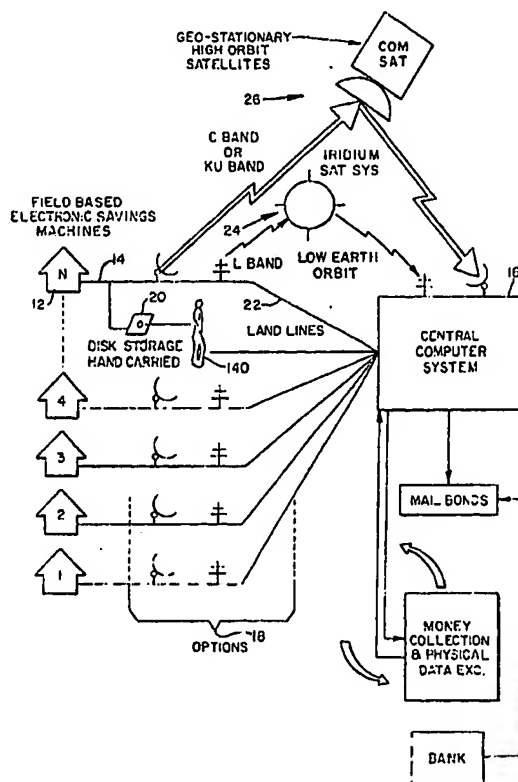
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(54) Title: DEVICE AND METHOD FOR INCREASING SAVING ACCOUNT PARTICIPATION AND INVESTMENT BY SMALL INVESTORS

(57) Abstract

An automated cash saving system (10) including multiple remote cash saving machines (12) for automatically receiving deposited cash in small amounts from multiple depositors, for automatically counting the cash deposited by each of the depositors, and for attributing the value of accounted cash to individual savings accounts identified by the depositors, and for electronically encoding the values and the accounts to which the cash is attributed, transmitters to multiple remote cash saving machines send the electronically encoded information to a central processor (16) for decoding, and automatic processor in the central processor (16) wherein the identified accounts, the lock box at the multiple remote cash savings machines for holding deposited cash until it can be physically collected, and an authorization letter generating device associated with the central processor (16) for obtaining the depositor's authorization to purchase preselected instruments on his behalf upon reaching a cumulative value in the depositor's savings account equal to or greater than the minimum purchase price of the preselected security instrument.



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**DEVICE AND METHOD FOR INCREASING  
SAVING ACCOUNT PARTICIPATION AND INVESTMENT  
BY SMALL INVESTORS**

**TECHNICAL FIELD OF THE INVENTION**

The present invention relates to a system method,  
device and apparatus for encouraging the participation of  
small investors in savings accounts and investment  
5 accounts. More particularly, this investment relates to  
cash counting machines at which small amounts of cash can  
be deposited for saving.

## BACKGROUND OF THE INVENTION

The present invention relates to a system method, device and apparatus for encouraging the participation of small investors in savings accounts and investment  
5 accounts, particularly, this invention relates to coin and currency counting bank machines at which small amounts of coins and paper currency can be deposited for collection and for automatic accounting, recordation of deposited amount, periodic collection and investment in  
10 interest-bearing savings accounts or bonds on behalf of the small investor/depositor.

Coins and other small denomination currency are collected in numerous households in jars, piggy banks, drawers, coin trays and the like, which money is seldom  
15 collected, counted and placed in savings institutions or investment securities. These small denominations are often in the hands of young people, and the amount is not independently sufficient to provide for the purchase of a savings bond, or a quantity of stocks, or other  
20 investment vehicle. Often, the minimum required even for opening a savings account can be significantly larger than the amount of money in these small stashes of coin and low denomination currency.

There are devices into which coins can be fed for  
25 separating and organizing the coins into separate denominations by sizes. There are also devices for optically scanning the small denomination currency, in particular one dollar bills, as in various vending machines and the like. In many instances, these sorting  
30 and money counting machines are highly reliable and provide a quick, accurate count of the amount of money. For example, coin collection machines at toll booths for toll roads and the like rapidly collect coins and evaluate the value thereof. Such devices have heretofore

been utilized only for the purpose of providing goods (as in a vending machine) or services (as in the use of a toll road) in exchange for the money deposited.

5       There are also ordinary bank accounts into which depositors can place their money, but the deposit of coins and small amounts of money is typically discouraged by the bank tellers, and the human time required to count the value of the coins or small denominations.

## SUMMARY OF THE INVENTION

The present invention provides collection devices into which coins and small denominations can be conveniently deposited. The machines automatically sort  
5 coins and count the money deposited and provide the depositor with a printed receipt indicating the value of the coins deposited. The information is communicated to a central processing station and the coins deposited are periodically collected from the receptacle and taken to a  
10 bank for credit and recirculation of the currency. Each depositor establishes an account, as by a Social Security number or a driver's license number or other such individualized identifier and as each deposit is made, the depositor's account is credited with each additional  
15 amount of money deposited. When the total amount deposited over a period of time reaches a threshold level, such as the threshold level for purchasing a U.S. Savings Bond or other designated security instrument, the depositor is notified of his option to have such a  
20 security instrument purchased on his behalf and the operator of the network purchases such a security in the depositor's name and forwards it to him.

## 5

## BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing objects and advantages can be more fully understood with reference to the drawings in which like elements are represented by like numerals, and in which:

FIGURE 1 is a schematic depiction of the inventive, automated cash saving system;

FIGURE 2 is a front plan view, with a partial cutaway and schematic depiction of internal components of the automated electronic saving machine of the inventive system; and

FIGURE 3 is a schematic block diagram of the field-based electronic savings machine.

## 6

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

With reference to FIGURE 1, which is a schematic depiction of the inventive, automated cash saving system 10 in which multiple electronic field-based saving machines 12 are schematically depicted, numbering 1, 2, 3, 4 ... N, with each electronic machine 12 providing similar automatic cash collection and information gathering and transmission function, as will be described more fully below with reference to FIGURES 2 and 3.

The information collected by the machine is represented by data line 14. Basically, this information will include information on the amount of money deposited, the identification of the depositor, or the depositor's account to which the deposit is to be credited. Other information, such as location of the machine, date and time, can also be included within the information collected, schematically represented as data line 14. This information will, according to the invention, be transmitted to a central computer system 16 through one or more optional transmission means 18. Such optional transmission means may include the physical transmission or the physical carrying of a data computer storage disk for a low-end or low-cost electronic savings machine which may be established in location where low traffic might be expected, but nevertheless is helpful for convenient access for the types of small investors for which the system is designed. Land lines 22 might also be used to transmit data. Other transmission means, including low orbit satellite transmission 24, such as a iridium SAT system, or even a high orbit satellite 26, such as a geostationary satellite as a COMSAT satellite system.

The money collection function 28, schematically represented by box 28, would be done, for example, by a



courier 30, which courier 30 would also collect the data disk from electronic savings machines in which more sophisticated radio or satellite transmission systems could not be economically justified based upon the volume of collections being made at any such field-based electronic savings machines. To the extent that hard currency or bills were collected, they would be deposited, as for example by multiple couriers each having separate collection routes, to a money collection and physical data exchange location 28 at which money collection and physical data exchange location the appropriate information on the amounts collected as well as the data as to the depositors could be forwarded to the central computer system. The money collection expected to be handled at money collection station 28 would be on an area-by-area basis, each of which areas could be serviced by multiple field-based electronic savings machines. Each money collection site would also have access to banks for depositing the hard currency into the Federal Banking System. The central computer would receive all input information and would track the amount of money being deposited by each depositor or with respect to each particular identified account. The central computer system would conduct various steps with the information collected, including running a continuous tally or total of the investments having been made over a period of time by each independent depositor. Various types of securities or a minimum investment amount would be determined and advise, as by a letter notice to a depositor, would be generated at a threshold level for the particular security or investment device for which the system is anticipated. Upon receipt of authorization from the depositor, an order would be placed for the purchase of a security or other investment instrument and

the security or investment instrument would then be forwarded to the individual depositor.

With reference to FIGURE 2, which is a front plan view with a partial cutaway showing the schematic depiction of internal components of an automated electronic savings machine 40. On the exterior face of the machine at convenient locations which are depicted schematically for the purpose of discussions here, a cash/coin depository 42 is provided which may include a large receptacle having a funneling device so that the coins can be easily received into the cash collection machine for further processing. Also, a cash bill depository 44 would be provided by which bills of various denominations, including one dollar bills, could be inserted into the electronic cash collection machine. An identification means, such as an identification keypad 46, or an identification card input 48, which may be of the type designed for accepting electronic credit cards or magnetic strip type credit cards used to identify the depositor or the account to which money being deposited is to be credited. To confirm the identification prior to depositing the money, an identification display means 50 would be provided, such as a liquid crystal display (LCD), or other acceptable display. For example, a cathode ray tube (CRT) screen might be used. It is expected that the size and cost advantages currently provided by a LCD display make the LCD display the preferred embodiment. Also, to give the savers a comfort level and also a check against the electronic data transmission, a deposit receipt generator 52 could be conveniently provided.

The electronic cash collection machine 40 will be provided with a locked collection access means 54, schematically depicted as a key lock, it being understood

that other security locking devices may also be employed, as may be appropriate for retrieving the deposited cash from the cash collection machine.

Each of the information input machines, including keypad 46 and credit card reader 48 will communicate with an onsite information processor 56, as for example via communication lines 47 and 49, respectively. Information processor 56 will also communicate to output information means including the identification display 50 via line 51 and receipt generator 52 via information transmission line 53.

The onsite information processor 56 may be a small microprocessor or may, for example, as shown schematically be a plug-in computer card 58. The circuitry inside the cash collection machine would also transmit the data from the onsite information processor via internal communication line 61 to a data transmission means 60, which data transmission means 60 may be any of the optional for generating a transmission signal compatible with any of the data transmission options 18, as in FIGURE 1. In the case of the low-end data collection means which is preferred for low traffic areas in which, for the convenience of the individual savers, inexpensive, no-frills collection means are provided, a data collection means 62, such as a magnetic computer disk drive to which the information processor can feed the data which is to be transmitted to the central computer system 16 (as shown in FIGURE 1). Upon deposit of cash in either the form of coins into coin receptacle 42, or in the form of dollar bills or bills of other denominations in bill collector 44, additional information is generated internally and received for processing by the information processor and for subsequent data transmission. In the case of cash coins